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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,493	07/22/2002	Fen Chen	BUR920010055	4850

28211 7590 11/24/2003

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EXAMINER

ERDEM, FAZLI

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

SUPPLEMENTAL
Office Action Summary

Application No.

10/064,493

Applicant(s)

CHEN ET AL.

Examiner

Fazli Erdem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Dobuzinsky et al. (5,412,246) in view of Curran et al. (4,901,133).

Regarding Claim 1, Dobuzinsky et al. disclose a low temperature plasma oxidation process where a process for forming a thin film on a surface of a semiconductor device which involves formation of a silicon dioxide film by plasma enhanced thermal oxidation employing a mixture of ozone and oxygen which are generated separately from the reactor chamber. Dobuzinsky et al. fail to disclose the required nitride/oxide configuration. However, Curran et al. disclose a multilayer semi-insulating film for hermetic wafer passivation and method for making same where the required nitride/oxide configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required nitride/oxide configuration in Dobuzinsky et al. as taught by Curran et al. in order to have a semiconductor device with higher performance.

2. Claims 2-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Dobuzinsky et al. (5,412,246) in view of Curran et al. (4,901,133) further in view of King et al. (6,479,862).

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Regarding Claims 2-6, Dobuzinsky et al. and Curran et al. combination fail to disclose the required voltage control/trapment configuration. However, King et al. disclose a charge trapping device and method for implementing a transistor having a negative differential resistance mode where the required voltage control/trapment configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required nitride/oxide configuration in Dobuzinsky et al. and Curran et al. combination as taught by King et al. in order to have a semiconductor device with higher performance.

3. Claims 11-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Dobuzinsky et al. (5,412,246) in view of Curran et al. (4,901,133) further in view of King et al. (6,479,862) further in view of Dobuzinsky et al. (5,330,935).

Regarding Claims 11-16, Dobuzinsky et al. (5,412,246), Curran et al. and King et al. combination fail to disclose the required method of making oxide/nitride interface configuration and the method of making voltage controlled/trapment configuration. However, Dobuzinsky et al. (5,330,935) disclose a low temperature plasma oxidation process where the required method of making oxide/nitride interface configuration and the method of making voltage controlled/trapment configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required method of making oxide/nitride interface configuration and the method of making voltage controlled/trapment configuration in

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Dobuzinsky et al. (5,412,246), Curran et al., and King et al. combination as taught by Dobuzinsky et al. (5,330,935) in order to make a semiconductor device with higher performance.

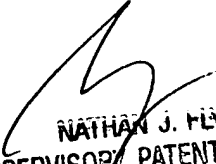
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE


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